

REMARKS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on February 11, 2004. Claims 1-13 and 15-20 are pending in the Application and stand rejected. Claims 17 and 18 would be allowed if rewritten to overcome the rejections under 35 U.S.C. §112 and to include all of the limitations of the base claim and any intervening claims. The indication of allowable subject matter is noted with appreciation. The indication that the drawings filed on October 3, 2002 are acceptable is also noted with appreciation. Claims 1-13 and 15-20 are amended by the present Amendment.

In view of the allowable subject matter, Claim 17 has been rewritten in independent form, including all of the limitations of Claims 1 and 15, from which Claim 17 originally depended. Based on the present amendment and the allowable subject matter, Applicants respectfully submit that Claims 17 and 18 are in condition for allowance.

Claims 1-13 and 15-20 stand rejected under 35 U.S.C. §112, second paragraph. As to the outstanding 112 issues with Claims 1 and 2, detailed in the outstanding Office Action on page 2, line 10 – page 3, line 4, Applicants respectfully submit that the present amendment has overcome them. With respect to Claim 9, the outstanding Office Action asserts that it is unclear what element is performing the plurality of motions parallel and perpendicular to the axis of the yard guide. As shown in FIG. 6, by way of illustration and not as a limitation, the use of a guiding rail 52 would allow the yarn guide to undergo the recited motion. That is, the yarn guide is moved concomitantly with the motion (M) parallel to the longitudinal axis in a coplanar motion (N) perpendicular to the longitudinal axis so that the resulting motion is parallel to the third generatrix. There is no requirement that all features of an invention must

be shown. In addition, given the subject matter disclosed, one of ordinary skill in the art would know how the claimed motion can be implemented without undue experimentation. Therefore, Applicants respectfully submit that the rejection of Claim 9 under 35 U.S.C. §112 should be withdrawn.

Based at least on the foregoing reasons, Applicants respectfully submit that the present amendment overcomes the outstanding rejections of Claims 1-13 and 15-20 under 35 U.S.C. §112, second paragraph and respectfully request their withdrawal.

Claims 1-13, 15, 16, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Siegenthaler (U.S. Patent No. 2,858,993, hereinafter “Siegenthaler”) in view of Ruig (U.S. Patent No. 3,259,337, hereinafter “Ruig”).

Applicants respectfully submit that Siegenthaler, and Ruig, individually or in any combination thereof, do not support a *prima facie* case of obviousness of the invention recited in the presently amended independent Claim 1. This is so because of at least two reasons. First, even when combined, these prior art references do not teach or suggest all the claim limitations recited therein. Secondly, there is no suggestion or motivation to combine Siegenthaler with Ruig.

According to a feature of the invention as set forth in the presently amended Claim 1, a method of winding a yarn in a plurality of superposed layers onto a cylindrical support forming a bobbin having a shape with two frustoconical ends and a frustoconical main body joining the two frustoconical ends is disclosed comprising governing the movement of the yarn guide with a first rule, wherein a last layer of yarn deposited according to the first rule goes as far as the end of the unwind cone, and a second rule for terminating the base cone while forming the main body and the unwind cone, wherein a first layer of yarn deposited

according to the second rule is parallel to a last layer of yarn deposited according to the first rule.

As disclosed in the Specification, conventional winding techniques using frustoconical bobbins have several technical challenges, including, but not limited to, (1) the requirement of structures to wind the yarn onto a support placed vertically and, on the other hand, using a drawing device and a dancer roll, demanding significant technical modifications of existing machining, thereby requiring a significant investment in the infrastructure of the plant (Specification, page 2, line 14 – page 3, line 4); (2) the negative impact on the use of a base support, causing the yarn to easily break or be deposited in the bobbin in an inefficient fashion (*Id.*, page 3, lines 5-14); (3) the lack of twisting of the yarn, resulting on yarn damage due to crossover (*Id.*, lines 15-25); (4) the changes in winding steps and inclination (*Id.*, page 4, lines 1-21); (5) the production of an angle of built of the first layer with respect to the axis of the bobbin that is too great, creating large circumferential variations and large variations in the speed of the bobbin when unloading the yarn (*Id.*, lines 22-36); and (6) the requirement for a guiding component for the yarn in the form of an eyelet, which makes more difficult to restart the winding operation after a failure because of the requirement to pass the yarn through the eyelet (*Id.*, page 5, line 37 – page 6, line 12).

The novel and advantageous method of the present invention ameliorates the above-noted problems of conventional methods, among other benefits and features, with the use of a cylindrical support forming a bobbin and controlling the winding of the yarn with first and second rules that dictate the winding of the yarn in the unwind cone and how to terminate the base cone while forming the main body and the unwind cone by depositing the yarn parallel to a last layer of yarn deposited according to the first rule.

Siegenthaler relates to a stroke control mechanism for reciprocating thread guides of winding machines (Siegenthaler, col. 1, lines 15-26). This reference discloses a shaft 1 coupled to a gear to control a drum 2 provided with a continuous cam groove 3. From shaft 1 the drive of the operating or winding spindle 6 is effected by means of a pair of spur gears 4, 5. A cylindrical support or shaft 7 is disclosed for embodiments A-E and a conical support 38 is disclosed for the embodiments F-H. The yarn is wound in the cylindrical or conical supports by a thread guide 8 arranged on a slide assembly 9, 10, 11, longitudinally slidable in a guide tube 12 having an upper and lower slot 13, 14, respectively (*Id.*, col. 1, lines 50-60).

The Office asserts that Siegenthaler's invention includes all of the features of the package set forth in Claim 1, except the provision of a cylindrical support (Office Action, page 4, lines 9-12). Ruig is cited as teaching yarn packages which are wound in cylindrical supports, including a package having the same shape as FIG. 10 of Siegenthaler, but wound onto a cylindrical support. Applicants respectfully disagree. It is acknowledge that Ruig is silent as to a structure of his winding apparatus.

Applicants respectfully submit that Siegenthaler is silent with respect to any rules on how to wind the yarn on the cylindrical or conical supports. In addition, it is clear from the above-noted summary of Siegenthaler that his invention does include a cylindrical support 7, except that a conical support 38 is disclosed with the frustoconical bobbin of embodiments F, G, and H, as shown in FIGS 10, 11, and 12 of Siegenthaler. Thus, Siegenthaler cannot support a finding of obviousness of the invention recited in Claim 1 because a cylindrical support used to deposit yarn in a frustoconical bobbin used first and second rules as claimed is not taught or disclosed. Ruig, being cited only to show a bobbin having a frustoconical shape and a cylindrical support, does not remedy the deficiencies of Siegenthaler as noted.

Therefore, the combination of Siegenthaler and Ruig cannot support a finding of obviousness of Claim 1.

Applicants respectfully submit that the asserted position that Siegenthaler discloses the recited first and second rules as claimed is an unsupported factual conclusion that has not been support with substantial evidence. Applicants respectfully submit that factual conclusions must be supported by substantial evidence as required by the Administrative Procedures Act. *Dickenson v. Zurko*, 119 S. Ct. 1816, 50 USPQ 2d 1930 (1999); *In re Gartside*, 53 USPQ 2d 1769 (Fed. Cir. 2000). The outstanding Office Action is devoid of any evidence, let alone substantial evidence, to support the conclusion that Siegenthaler teaches first and second rules to wind a yarn on a cylindrical support to form a frustoconical bobbin as claimed. Ruig, also being silent about such rules and not disclosing the detailed structure of its apparatus, does not remedy this problematic situation. Therefore, Applicant requests that such substantial evidence be provided or that the rejection of Claims 1-13, 15, 16, 19, and 20 be withdrawn.

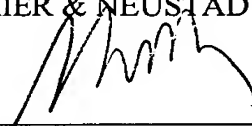
In addition, Applicants respectfully submit that there is no motivation to combine Ruig with Siegenthaler. As explained, Siegenthaler already discloses a cylindrical support 7. However, for the frustoconical bobbin of embodiments F-H, a conical support 38 seems to be needed. Siegenthaler is silent, with the exception to the disclosure that inclination of the guide lever 23 produces different shapes, as to any method or step of how to wind the yarn for any of the embodiments of FIG 10. Given that eight embodiments were disclosed and a cylindrical support was known, it is unclear how one can simply conclude that the cylindrical support of Ruig would work with the frustoconical yarn shape of Siegenthaler. After all, the inventor himself opted to use the more complicated and more expensive conical support instead of the known cylindrical one for the task.

Based at least on the foregoing reasons, Applicants respectfully submit that Siegenthaler and Ruig cannot support a finding of obviousness of Claim 1. Claims 2-13, 15, 16, 19, and 20 are each allowable, among other reasons, because of their dependency on Claim 1, which is allowable. Applicants respectfully request that the rejection of Claims 1-13, 15, 16, 19, and 20 under 35 U.S.C. §103 be withdrawn.

Based at least on the foregoing reasons, Applicants believe the present application is in condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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